

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY
(PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/019609

International filing date (day/month/year)
18.06.2004

Priority date (day/month/year)
01.08.2003

International Patent Classification (IPC) or both national classification and IPC
C09D183/04, H01B3/46, H01L31/0392

Applicant
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See PCT/ISA/210 (second sheet)

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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IAP9 Rec'd PCT/PTO 31 JAN 2006

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	9,18
	No: Claims	1-8,10-17
Inventive step (IS)	Yes: Claims	
	No: Claims	1-18
Industrial applicability (IA)	Yes: Claims	1-18
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

1). State of the art

The following documents are referred to in this communication :

D1 : US-4626556A (1986-12-02)

D2 : US-6340735B1 (2002-01-22)

D3 : US-5183846A (1993-02-02)

D4 : EP-0447611A (1991-09-25)

Document D1 discloses (see claims 1-7; column 8, lines 14-19 and example 17 with reference to examples 3, 13 and 14) a coating on aluminum plate of organopolysilsesquioxane ladder polymer having alkyl, alkenyl and/or aryl groups, but no hydroxy groups.

Document D2 discloses (see claim 1; column 2, lines 57-67; column 6, lines 1-17 and example 2) a poly(phenylsilsesquioxane) ladder polymer coated on a silicon wafer having deposited metallic aluminum. The coating has high planarity, is 0.1 to 10 micron thick and has dielectric constant of about 2.0 to about 2.6

Document D3 discloses (see claims 1, 2 and examples 5-7, 17 and 18) a silicon ladder polymer with alkyl, aryl, vinyl as well as silanol groups, coated on Al-clad Si wafer.

Document D4 discloses (the references in parenthesis applying to this document) a planarizing silsesquioxane copolymer coating having aminoalkoxysilane monomer, to be applied on metallic substrates.

2). Art. 33(1)(2) PCT - Novelty

As can be seen from the above, the documents D1-D4 disclose in combination all technical features defined in independent claims 1 and 10 as well as in dependent claims 2-8 and 11-17. Hence the subject-matter of these claims is not new (Article 33(2) PCT).

Formally, dependent claims 9 and 18 could be considered to be novel.

3). Art. 33(1)(3) PCT - Inventive step

It is however unlikely that the subject-matter of dependent claims 9 and 18 is based on an inventive step because their subject-matter seems to be obvious in view of cited state of the art and the general knowledge of the one skilled in the art. Moreover, it appears to be a commercially available siloxane resin, see example 4 of the application.